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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,933	08/01/2007	Philippe Arquint	32860-000850/US	1966

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EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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02/05/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/523,933	Applicant(s) ARQUINT ET AL.	
	Examiner MICHAEL M. BERNSHTEYN	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/28/05, 02/07/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: claim 1, line 6 contains obvious typing error “initiator” instead of “initiator”.

Claim 2, line 4, recites “methylenbis(meth)acrylamide” instead of “methylenebis(meth)acrylamide”; after the word “acrylamide” should be comma. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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2. Claims 1-3 and 5-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Feucht et al. (WO 2004/020659).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With regard to the limitations of claims 1-3 and 5-20, Feucht discloses the recognition layers made of hydrogels based on polyacrylamides for biosensors, such as a transducer. Said hydrogel is obtained from a composition comprising acrylamide, crosslinkers, photoinitiators, at least one film former, at least one comonomer having reactive linker groups, an optionally a softener. Said crosslinker can be chosen from methylene bisacrylamide or dimethacrylic acid esters (pages 1-5 of translation). Said film formers can be chosen from polyvinylpyrrolidone, polyacrylamide or polyhydroxymethacrylate. Said softeners can be chosen from di- or triethyleneglycol (page 5 of translation (page 2 of 3)). Said comonomer having reactive linker groups can be chosen from maleic anhydride or an epoxy compound (page 6 of translation (page 3 of 3, lines 14)). Dimethyl formamide and ethylene glycol can be added as solvents to the composition (page 6 of the translation (page 2 of 3)). This appears to anticipate the instantly claimed compositions.

3. Claims 1-3, 10, 13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Beuhler et al. (U.S. Patent Application Publication 2002/0035167 A1, or U. S. Patent 6,391,937, or WO 00/31148 A2).

With regard to the limitations of claims 1-3 and 5-20, Beuhler discloses a radically crosslinkable liquid composition such as polyacrylamide hydrogels (especially polyacrylamide hydrogel arrays) made from **prepolymers** and **polyacrylamide reactive polymers**, as well as methods and compositions for preparing the **polyacrylamide hydrogels** or hydrogel arrays. The method advantageously provides greater control of polyacrylamide pore size and crosslink density, allowing, for instance, preparation of a polyacrylamide hydrogel appropriate for use with DNA. Furthermore, the methods and compositions can be employed in commercial processes (abstract, Example 1).

Beuhler discloses that preferably a prepolymer is a polymerized form of acrylamide, and particularly, desirably a prepolymer is a polymerized form of polyacrylamide co-acrylic acid or other vinyl containing reactive group, R, wherein the R group can be any group that is capable of **crosslinking**, but does not do so under the conditions of polymerization specified for the invention. In particular, R can be a group such that the resultant co-monomer is acrylic acid, **glycidyl methacrylate**, etc. (page 3, [0044]). Preferably a prepolymer is a polymerized form of acrylamide, and particularly, desirably a prepolymer is a copolymer of acrylamide that is obtained by copolymerization with a co-monomer (particularly a functionalized co-monomer)

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including, but not limited to, acrylic acid, vinyl acetate, vinyl alcohol, and **glycidyl methacrylate** (page 5, [0062]).

With regard to the limitations of claims 3 and 10, Beuhler exemplifies the usage of the polymer, which is a copolymer of acrylamide where **glycidyl methacrylate** is a **co-monomer with acrylamide**, i.e., the polymer is polyacrylamide-co-glycidyl methacrylate. This copolymer is further modified with acrylic acid to produce the photosensitive polyacrylamide reactive prepolymer (Example 3, page 8, [0097]).

With regard to the limitations of claims 5, 13, and 15, Beuhler exemplifies the usage of n-propanol/water 2:1 as the solvents for the composition (Examples 2 and 3, page 8, [0095] [0098]).

4. Claims 1-3 and 5-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Okano et al. (WO 00/43355 A1 or U.S. Patent 6,495,645).

With regard to the limitations of claims 1-3, 5 and 8-20, Okano discloses a radically crosslinkable liquid composition for producing a hydrogel layer based on polyacrylamide (abstract; page 3, line 1 through page 14, line 5; examples 5-8), the starting composition containing at least one comonomer with reactive linker groups (page 5, lines 3-18; page 7, line 19 through page 8, line 14) in addition to acrylamide, i.e. the monomer precursor of the polyacrylamide (page 3, line 12 through page 4, line 6; page 8, lines 12-18), the crosslinking agent ("crosslinker", page 12, line 25 through page 13, line 3) and the radical initiator(s) ("radical initiator": page 13, lines 3-17).

With regard to the limitations of claims 6 and 7, Okano discloses DMF as a solvent (page 9, lines 3-26; page 12, lines 11- 19).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL M. BERNSHTEYN whose telephone number is (571)272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael M. Bernshteyn/
Examiner, Art Unit 1796

/M. M. B./
Examiner, Art Unit 1796